

WHAT IS CLAIMED IS:

1. A method for correcting DC offsets in a multi-stage amplifier,
comprising:

determining a DC offset imparted by a multi-stage amplifier to an input signal;

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applying a correction voltage to a plurality of selected stages in the multi-stage
amplifier, wherein the total correction voltage applied substantially negates the DC
offset imparted by the multi-stage amplifier.

10 2. The method of Claim 1, wherein the step of determining a DC offset
comprises determining a DC offset for each stage of the amplifier.

3. The method of Claim 2, wherein:

the correction voltage is applied to every stage of the amplifier; and

15 the correction voltage applied to each stage is equal in magnitude to the DC
offset imparted by the stage.

4. The method of Claim 1, wherein the total correction voltage is divided
evenly among the selected stages at which the correction voltage is applied.

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5. The method of Claim 1, further comprising:

monitoring an output DC offset for an output signal of the multi-stage
amplifier;

detecting a change in the output DC offset; and

25 adjusting the correction voltage applied to the stages in response to the change
in the output DC offset.

6. The method of Claim 1, further comprising:
adding a new stage to the multi-stage amplifier;
determining a DC offset imparted by the new stage; and
applying a correction voltage equal in magnitude to the DC offset imparted by
5 the new stage.

7. The method of Claim 1, further comprising:
adjusting the gain of one of the stages of the amplifier; and
in response to the adjustment of the gain, adjusting the correction voltage
10 applied to the stage for which the gain was adjusted.

8. The method of Claim 1, wherein:
the multi-stage amplifier comprises one of a plurality of multi-stage
amplifiers, wherein each multi-stage amplifier is operable to amplify a respective
15 signal on a respective communication path;
the respective signals are mixed into a combined output signal; and
the method further comprises:
monitoring for a change in a DC offset of the combined output signal;
and
20 adjusting the correction voltage in response to detecting the change in
the DC offset of the combined output signal.

9. The method of Claim 1, wherein:
the method is performed in an equalizer operable to compensate for
25 attenuation in an input signal; and
the gain of the multi-stage amplifier is controlled by an adaptive controller of
the equalizer.

10. The method of Claim 9, wherein the method further comprises:
detecting an indication from the adaptive controller that the gain of the multi-
stage amplifier has been changed; and
adjusting the correction voltage in response to the change.

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11. The method of Claim 1, wherein the input signal has a frequency of at
least one gigahertz.

12. A multi-stage amplifier, comprising:
a plurality of stages, each stage operable to apply a respective gain to an input signal; and

an offset controller operable to apply a correction voltage to a plurality of
5 selected stages, wherein the total correction voltage applied to the stages substantially negates a total DC offset imparted by the multi-stage amplifier.

13. The amplifier of Claim 12, wherein the offset controller is further operable to apply a correction voltage to each of the stages equal in magnitude to a
10 DC offset imparted by the stage.

14. The amplifier of Claim 12, wherein the total correction voltage is divided evenly among the selected stages at which the correction voltage is applied.

15 15. The amplifier of Claim 12, wherein:
the amplifier further comprises an offset monitor operable to:
monitor an output DC offset for an output signal of the multi-stage amplifier; and
detect a change in the output DC offset; and
20 the offset controller is further operable to adjust the correction voltage applied to the stages in response to the change in the output DC offset.

16. The amplifier of Claim 12, wherein the offset controller is further operable to:
25 detect an adjustment of the gain of one of the stages of the amplifier; and
in response to the adjustment of the gain, adjust the correction voltage applied to the stage for which the gain was adjusted.

17. The amplifier of Claim 12, wherein:

the multi-stage amplifier comprises one of a plurality of multi-stage amplifiers, wherein each multi-stage amplifier is operable to amplify a respective signal on a respective communication path;

5 the respective signals are mixed into a combined output signal; and

the amplifier further comprises an offset monitor operable to monitor for a change in a DC offset of the combined output signal; and

adjusting the correction voltage in response to detecting the change in the DC offset of the combined output signal.

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18. The amplifier of Claim 12, wherein:

the amplifier is part of an equalizer operable to compensate for attenuation in an input signal; and

15 the gain of the multi-stage amplifier is controlled by an adaptive controller of the equalizer.

19. The amplifier of Claim 12, wherein the input signal has a frequency of at least one gigahertz.

20. A multi-stage amplifier, comprising:
means for determining a DC offset imparted by a multi-stage amplifier; and
means for applying a correction voltage to a plurality of selected stages in the
multi-stage amplifier, wherein the total correction voltage applied substantially
5 negates the DC offset imparted by the multi-stage amplifier.

21. The amplifier of Claim 20, further comprising:
means for monitoring an output DC offset for an output signal of the multi-
stage amplifier;
10 means for detecting a change in the output DC offset; and
means for adjusting the correction voltage applied to the stages in response to
the change in the output DC offset.

22. The amplifier of Claim 20, further comprising:
15 means for adjusting the gain of one of the stages of the amplifier; and
means for adjusting the correction voltage applied to the stage for which the
gain was adjusted in response to the adjustment of the gain.